

# Introduction

Most Iowa counties maintain low volume roads with at least one bridge or culvert that is structurally deficient or obsolete. In some counties the percentage of deficient drainage structures may be as high as 62%. Replacement with structures of similar size would require large capital expenditures that many counties cannot afford. Low water stream crossings (LWSCs) may be an acceptable low-cost alternative in some cases.

LWSCs are particularly suitable for low volume roads across streams where the normal volume of flow is relatively low. There are three common types of LWSCs:

1. **unvented fords**
2. **vented fords**
3. **low water bridges**

LWSC sites, types, and designs should be carefully selected since low water stream crossings will be flooded periodically, requiring the road to be temporarily closed to traffic.

This guide provides a simplified approach to LWSC selection and design. After weighing public opinion and considering potential liability, jurisdictions interested in low water stream crossings should follow these steps:

